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Patents over ‘technologies’ related to how we treat, use, and modify the human body: An urgent need for greater bioethics scrutiny.

Policy Briefing - Article Summary

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This is a summary of the key arguments developed in: Aisling M. McMahon, ‘Patents over ‘technologies’ related to how we treat, use, and modify the human body: An urgent need for greater bioethics scrutiny’ (2025) 33(3) Medical Law Review. This summary has been prepared for a public and policy audience. The full article is available to read: **here**

Introduction: Patents & the Human Body

A patent is an intellectual property right. It allows the company or person who holds that right (called the rightsholder) the ability to prevent others making or using a patented technology for commercial purposes for the duration of the patent. Patents are temporary rights, and the duration of protection - which is also called the patent term - is typically 20 years. Under international law, patents must be granted in all fields of technology, this includes the health field. Patents can act as tools to encourage the development of new technologies, as they enable the rightsholder to develop an income stream from the patent. For example, third parties need permission from the rightsholder for commercial uses of a technology, which can be granted by rightsholders in return for monetary or other value. However, patents also give rightsholders considerable control over various uses of the patented technology, which as will be discussed can impact access to that technology. Where the patented technology is a health-technology, this can have implications for access to, and delivery of healthcare, in certain contexts.

Whilst the human body itself is not patentable, however, technologies that relate to the body are patentable under the European framework: for example, patents are available on technologies which **treat the body** such as medicines; patents are also available on technologies which come from the body (and therefore **use the body**), such as isolated human genes; and on technologies that can be used to **modify the body**, such as surgical tools.

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Governance Function of Patents: Potential Implications for Health-Technologies?

Under the patent system, patents once granted are all viewed in a similar manner, regardless of the specific technology under patent. In effect, **the current patent system views a patent on an engine part in the same way as a patent on a medicine.** Patentable technologies are seen as interchangeable (or fungible) with each other within patent law (Arvind & McMahon 2020). This is despite the fact that, how a patent is used over a technology, can enable the rightsholder to stop others from making, developing or selling that technology. **In other words, the article argues, that patents enable rightsholders to exercise an important governance function over a patentable technology** (McMahon 2020a; McMahon 2020b).

This governance function can have particularly important implications where the technology under patent relates to how we treat, use and modify the human body. For example, a patent over a medicine, given what a medicine is used for, could have significant **implications for who can access, develop, and use that medicine.** How patents over such technologies are used can therefore significantly impact access to healthcare for patients.

In short, the current patent system is often blinkered to the impact that patent rights – and how these rights are used – can have on technology users (such as patients) and technology providers (such as doctors) in the health context. Once a technology is patentable, the patent system does not necessarily draw differences over how patents around different technologies are or should be used. Instead, arguably patent systems adopt a technology-neutral approach. The article fundamentally challenges this.

Challenging the Technology-Centric Approach: Using a Novel Taxonomy of Patentable Technologies Related to How We Treat, Use and Modify the Human Body.

To demonstrate the impact that certain patent uses can have on healthcare, the article develops a new categorisation of five types of patentable technologies which relate to different aspects of how we treat, use and modify the body. It uses these categories **to show that the relationship of the patented technology with the human body matters**, as patents over these 5 categories of technologies—and their use—can impact access to health and can pose significant **bioethical implications**, including implications for patient **autonomy**, **dignity**, and **bodily integrity interests**.

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Five categories of patentable technologies related to how we treat, use and modify the body:

The five categories of patentable technologies related to the human body, which are outlined in detail in the article are:

1. Technologies which come from (i.e. derive from) within the human body, such as isolated human genes which are patentable in Europe. This category also includes, for example, hormones which can have therapeutic effects or be used to create therapeutic products;

2. Technologies which are tools used to act on the human body whose purpose is to treat the human body or reveal information about it, such as surgical tools or certain elements of diagnostic processes;

3. Technologies which are substances that are developed outside the body which are used to treat the body, such as medicines;

4. Technologies that are created outside the body and intended to become part of (i.e. integrated with) the body, such as implantable/attachable medical devices (e.g. pacemakers). Such technologies could have therapeutic effects and could also modify the body in certain contexts;

5. Technologies that can be used to change (modify) significant aspects of what it means to be human or the creation of future human life. For example, technologies that significantly modify how we create future human life (e.g. emerging assistive reproductive technologies), or technologies that could potentially be used for enhancement purposes (e.g. certain neuro-technologies).

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Using examples from each of these categories, the article shows that patents over such technologies can, as in other contexts, impact how we access, develop and use the patented technology. As noted, it argues that rightsholders effectively hold a key governance role over these technologies. Moreover, given how the technologies within these 5 categories relate to how we treat, use and modify the body, this governance role can give rise to significant bioethical implications. The article then makes the case that such bioethical implications related to patent grant or patent use need deeper consideration within and outside patent law.

In terms of what is meant by 'bioethical implications' of patents, for the purposes of this article, it focuses on how certain types of patents and certain uses of such patents over health-technologies, can impact key bioethical interests, including, the autonomy; human dignity and the bodily integrity of technology users (such as patients) and technology providers (such as doctors).

Bioethical Implications of Patents

In relation to autonomy, this article argues that how patents over health-related technologies are used is a key factor that can impact **access** to such technologies, which in turn can impact patient autonomy (including, patient choice and freedom to choose) by affecting the types of healthcare treatments or interventions available and accessible to patients. The article also shows that patents can be used in ways that impact autonomy of doctors (and other healthcare practitioners) by impacting the types of healthcare tools, medicines, treatments that health systems (and therefore practitioners) have **available** to provide to patients.

In relation to **'dignity',** the article refers to the implications of patents for the inherent dignity of, and respect for, humans. For example, patents over isolated human genes are seen by some as commodifying or commercialising a component of the human body and hence, potentially impacting human dignity interests. Moreover, depending on the context, patents over isolated genes can be used in ways which could impact the types of genetic testing that can be conducted, which can impact what we can find out about our bodies, and this could also be seen as having implications for human dignity.

Finally, in relation to **'bodily integrity'**, the article focuses on how patents over certain technologies can impact **'bodily integrity'** or act in ways which cause unwanted physical interference with a person's body. For example, medical devices, are now increasingly, intended to become part of (i.e. 'integrated') (Quigley & Ayihongbe, 2018) with the human body e.g. cochlear implants or cardiac pacemakers. Yet, patents and other intellectual property rights (IPRs) can apply over various elements of such technologies, and such IPRs can impact how such technologies are developed, accessed, and used. Such IPRs can also potentially impact whether and to what extent such devices can be upgraded including whether there are new parts/services available to enable such devices to continue to function (McMahon and Kolawole 2025) (Quigley & Aydihongbe 2018).

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Accordingly, the article argues that IPRs (including patents) over such technologies can be used in ways that impact how integrated medical devices (continue to) operate once implanted in a human body. This could give rise to implications for **bodily integrity** interests of device users, as IPRs can affect how such devices operate. This factor can contribute to why a device may not continue to work (or be fixed in certain ways) and hence, impact how a person's body functions.

The article argues that such bioethical implications are not considered routinely in patent grant or use stages. Instead, once granted, aside from limited exceptions, a patent on an engine part is viewed the same as a patent on a medicine.

The patent system typically does not differentiate how patents should be used based on the underlying nature or intended function of a patentable technology. There is also no tailored overarching law, at an international level, that requires the consideration of bioethical issues that may arise around how patents are used (i.e., licensed or enforced). Alongside this, the article argues that current legal avenues that could be used to engage with these issues, offer limited means to addressing the range of bioethical issues at stake.

Call for a Re-conceptualisation of Patents – Towards Person Centred Approaches?

The article concludes by calling for a fundamental shift in how patents over such technologies are considered both within the patent system (such as by decision-making bodies like the European Patent Office) and outside this system (including within health law, bioethics and patent law communities), to ensure such bioethical implications are considered and that we can create a more person-centred approach. **There needs to be deeper consideration (and recognition) of the bioethical implications posed by patents—at both grant and use (licensing/enforcement) stages—due to how the underlying patented technologies relate to how we treat, use, or modify the human body.** Due to the connection of such technologies with how we treat, use and modify the body, and the attendant bioethical implications which can arise, this research argues that rightsholders should have obligations placed upon them in terms of how they use such patents in certain contexts. These obligations would aim to address or at least seek to minimise potential bioethical implications at stake, and could include, for example, licensing conditions on patent use. **This would drive a more nuanced balancing of the potential incentivising role patents can play in encouraging the development of new health-technologies with the need to consider the bioethical implications of patents over such technologies in the healthcare context.**

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Further Reading & References

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